

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2004/001630

## A. CLASSIFICATION OF SUBJECT MATTER

According to International Patent Classification (IPC) or to both national classification and IPC7 : A45D-29/00; A45D-29/17

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

**A45D-29/00, B08B-7/00, B05C-1/00, B05D-1/28, A46B-11/00, A61K-7/04**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Canadian Patent Database

Electronic data base consulted during the international search (name of data base, and, where practicable, search terms used)

Delphion ; Keywords: polish, nail, remov\*, finger\*

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages			Relevant to claim No.
X	US 6,575,171  (See entire document)	(Jaquin)	June 10, 2003	1-20
A	US 3,966,335  (See entire document)	(Abramson)	June 29, 1976	1-20

Further documents are listed in the continuation of Box C.

Patent family members are listed in annex.

* Special categories of cited documents :	"T": document defining the general state of the art which is not considered to be of particular relevance	"I": later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A": earlier application or patent but published on or after the international filing date	"X": document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"E": document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y": document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"L": document referring to an oral disclosure, use, exhibition or other means	"&": document member of the same patent family	
"O": document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international-type search  
25 November 2004 (25-11-2004)

Date of mailing of the international-type search report  
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Commissioner of Patents  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.  
PCT/CA2004/001630

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US6575171	10-06-2003	US6575171 B1 WO02071889 A2	10-06-2003 19-09-2002
US3966335	29-06-1976	US3966335 A	29-06-1976

NAIL POLISH REMOVER, ESPECIALLY FOR TOESFIELD OF THE INVENTION

5 The present invention relates to the field of nail care and, in particular embodiments, to the field of toenail polish removal.

BACKGROUND OF THE INVENTION

10 Heretofore, nail polish has been removed from toes by such means as scrubbing with a cotton ball which is wetted with nail polish remover. Other simple or, alternatively, mechanical devices have been proposed. However, removing nail polish from toenails has been relatively difficult or inconvenient.

15 The following patents are considered to be of general relevance to the subject matter of the present invention and are not believed to anticipate or render the present invention obvious, whether taken alone or in any combination.

20 United States Patent No. 5,992,422 (Ivory) **TOE NAIL POLISH REMOVING DEVICE** describes a device specifically designed for removing nail polish from toes, whereby a seated or standing user places her foot through a vertical opening and into a reservoir containing a sponge and nail polish remover solution. The sponge is electronically reciprocated over-top of the toes to aid the removal process.

25 United States Patent No. 4,800,606 (Kolesky) **DIGIT NAIL CLEANING DEVICE** teaches an electric finger- and toe- nail cleaning device comprising individual compartments for receiving a single finger or toe. Inside each compartment is provided a rotating cleaning member such as a sponge immersed in nail polish remover solution.

30 The following additional patents relate to the concept of an upstanding container holding a cleaning solution which wets a sponge or like material and into which a user places her finger for removing nail polish. Scherer indicates that the device may also be used for toenails. Montiel's product has additional uses in the nail care area. Ropp et al. utilize a brush in place of a sponge. These patents are less relevant to the present invention because they are not practical for removing nail polish from toes.

United States Patent No. 4,440,181 (Scherer) **NAIL POLISH REMOVER KIT**; United States Patent No. 4,530,726 (Montiel) **FINGERNAIL REFINISHING PRODUCT AND METHOD**; United States Patent No. 4,964,372 (Zeenni et al.) **FINGERNAIL TREATING DEVICE**; United States Patent No. 4,282,891 (Duceppe) **FINGERNAIL TREATING DEVICE**; and Canadian Patent No. 1,067,655 (Ropp et al.) **NAIL POLISH REMOVER**

United States Patent No. 5,992,422 (Ivory) is somewhat complex and differs from the present invention as will be understood hereinbelow.

United States Patent No. 4,800,606 (Kolesky) does not appear to be well suited for cleaning toenails because of the configuration. A user would have to manipulate her toe awkwardly in order to use such a device. Similarly, the remaining patents listed above do not appear to be well suited for cleaning toenails, notably because of the disposition of their openings for inserting digits.

#### SUMMARY OF THE INVENTION

The present invention seeks to overcome the inconvenience of removing nail polish from toenails using conventional devices intended primarily for use with fingernails. The present invention provides a means, including a device, which renders more convenient the process of removing toenail polish. People with limited mobility may also find this invention more convenient since less bending is required. The device may also be used to remove fingernail polish, to generally clean nails or for other cleaning uses.

According to an aspect of the present invention there is provided a nail polish removing device comprising: a container defining a nail polish removing solution compartment in a bottom part thereof, and having a side wall with an opening disposed above the solution compartment, the opening dimensioned to receive that portion of a foot to be cleansed or treated, and a porous and pliable medium disposed in the container at least partly above the solution compartment and in contact with the solution so that when the device is in use, the solution at least partly permeates the medium, the medium having a slot or cavity dimensioned to receive that portion of the foot to be cleansed or treated, the slot or cavity disposed in alignment with the opening so that a portion of a user's foot can be inserted laterally through the opening into the slot or

cavity .

According to another aspect of the present invention there is provided a therapeutic cleansing device comprising: a container defining an active solution compartment in a bottom part thereof, and having a side wall with an opening disposed above the solution compartment, the opening dimensioned to receive that portion of a foot to be cleansed or treated, and a porous and pliable medium disposed in the container at least partly above the active solution compartment and in contact with the active solution so that when the device is in use, the active solution at least partly permeates the medium, the medium having a slot or cavity dimensioned to receive that portion of the foot to be cleansed or treated, the slot or cavity disposed in alignment with the opening so that a portion of a user's foot can be inserted laterally through the opening into the slot or cavity.

When the device is set upstanding, the opening in the porous and pliable medium may be in the vertical plane or otherwise such as slightly off vertical. In different embodiments, the opening may span various widths across the sponge.

The nail polish removing solution may be any commercially available nail polish remover or other suitable solution and may be determined by the user. The active solution can be any commercially available or prescribed medicinal or cleansing solution or other suitable solution and may be determined by the user.

The container of the device may be made of plastic or other suitable material. Preferably the material(s) is/are in line with the objectives of the invention and therefore may be leak proof, relatively durable and non-degrading under the conditions. The porous and pliable medium may be of various types and preferably in line with the objectives of the invention and therefore may be effective in the nail polish removing, treatment or cleansing processes including effective abrasion, durability and capable of being effectively wetted by the solution. More than one type of porous and pliable medium may be used to provide different scrubbing needs in one device. Also, different porous and pliable mediums may be used with a single device and therefore the invention may be manufactured, sold etcetera in its component parts or combinations thereof.

Instead of having a solution in the bottom of the device which may be replenished, cartridges containing solution may be used which are fitted to the device to replenish the solution.

As seen in the Figures, the device may be at least somewhat kidney shaped with correspondingly shaped sponge or foam for encapsulation within. In a preferred embodiment the device is pearlized bright pink in color.

#### BRIEF DESCRIPTION OF THE DRAWINGS

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Embodiments of the invention will be described below with reference to the accompanying drawings, in which:

10 Figure 1a and 1b are perspective views of a device and cover therefor of an embodiment of the present invention;

Figure 2 is a rear view of an embodiment of the present invention; and

15 Figure 3 is a front side view of an embodiment of the present invention showing exemplary dimensions.

#### DETAILED DESCRIPTION OF THE INVENTION

20 Referring to Figures 1 to 3, a nail polish removing device (1) is shown in perspective view and comprises a porous and pliable medium such as a sponge or foam (2) for scrubbing a nail or portion of a foot, the medium (2) being adapted to hold therein nail polish removing solution or an active solution, and having at least one opening (3) for receiving therein at least one digit or portion thereof. A solution compartment (seen by the dotted line in Figure 2) is provided for holding nail polish removing solution or active solution and communicating with the porous and pliable medium (2) for wetting thereof. A container (4) holds the porous and pliable medium (2), and has non-skid means (5) for allowing useful positioning of the device, such as suction cup feet or non-skid pads. The non-skid means (5) may be affixed to a floor or other surface and the user may sit in a comfortable position so as to allow convenient use of the device (1).  
25 A user may elect alternative arrangements, such as standing or lying down with the device (1) placed appropriately. The user may wiggle their toes around as required to aid the cleansing or removal process. In any case, the friction between a nail or portion of a foot and having nail polish removing solution or active solution therein facilitating the removal of the nail polish or treatment and cleansing of a portion of the foot. A ledge (6) is disposed in front of the opening (3) for resting one's foot (or hand) thereon while one's digit(s) is within the porous and pliable  
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medium (2).

In Figure 1b, a cover (7) is shown for placement on the open front face of the device (1). The cover (7) serves to hide the front face and to prevent leakage while the device is not in use. Embossment (8) is an example of how the lid may be secured to the body, where the lid (and an embossment or valley) is forced over the embossment (8) into a secure fit. Several embossment may be used or a continuous embossment surrounding the device. Various other securing means may be used involving a snap, friction or other means. To wet the porous and pliable medium (2), the lid may be secured to the body and the device shaken and/or tilted.

In addition, the nail polish removing solution may be transferred to the porous and pliable medium (2) by capillary transfer.

Figure 2 shows the closed back of the device (1) and Figure 3 shows the device (1) in plan view from the front. An example of suitable dimensions are shown, wherein the length of the width of the device is 6 inches and the height 3 inches. The dimensions may vary greatly and may be such as to accommodate any number of digits, such as from one to 10. A profiled outline of a foot or like indication may be present on the device.

The foregoing are exemplary embodiments of the present invention and a person skilled in the art would appreciate that modifications to these embodiments may be made without departing from the scope of the invention.

#### INDUSTRIAL APPLICABILITY

It can be seen from the illustrations and descriptions heretofore that the devices as taught herein, and purposed to facilitate the treatment and cleaning of and particularly the removal of nail polish, particularly from toes, provide an advance in the art. The advantages realized by this invention which have been discussed herein are in no way intended to provide an exhaustive list thereof and therefore other features and advantages may exist and/or be discovered by working of, or experimenting with, the present invention.

THE EMBODIMENTS OF THE PRESENT INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A nail polish removing device (1) comprising:

a container (4) defining a nail polish removing solution compartment in a bottom part thereof, and having a side wall with an opening disposed above the solution compartment, the opening dimensioned to receive that portion of a foot to be cleansed or treated, and

a porous and pliable medium (2) disposed in said container (4) at least partly above said solution compartment and in contact with said solution so that when the device (1) is in use, the solution at least partly permeates the medium (2), said medium (2) having a slot or cavity (3) dimensioned to receive that portion of the foot to be cleansed or treated, the slot or cavity (3) disposed in alignment with the opening so that a portion of a user's foot can be inserted laterally through the opening into the slot or cavity (3).

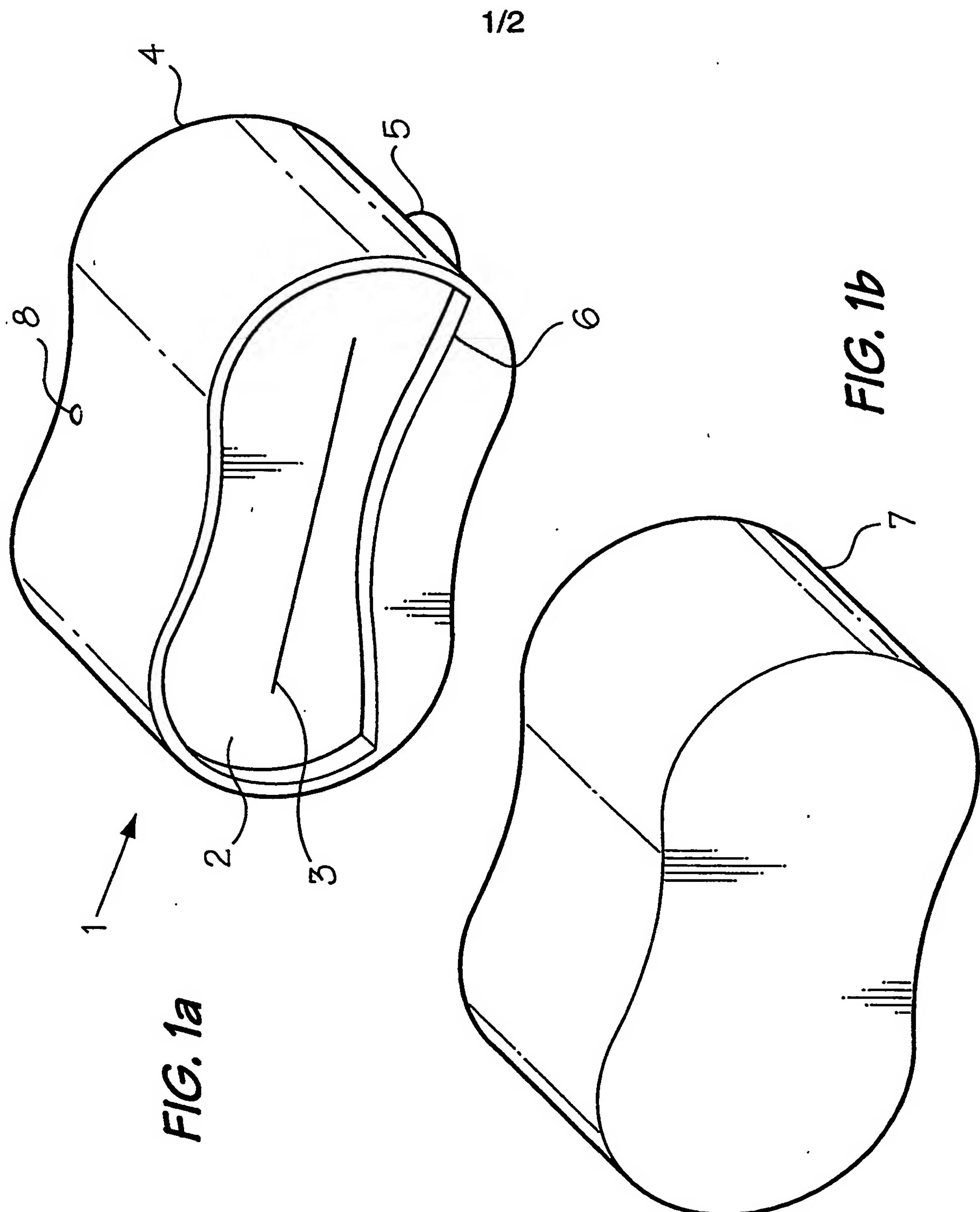
2. The device (1) according to claim 1, wherein the container further comprises a ledge (6) disposed at bottom of said opening, the ledge (6) dimensioned to rest the user's foot when that portion of the foot to be cleansed or treated is inserted through the opening.
3. The device (1) according to claim 1 or 2, further comprising a container cover (7) dimensioned to substantially seal the container (1) against a loss of the solution when the device (1) is not in use.
4. The device (1) according to any one of claims 1 to 3, further comprising non-skid means (5) for enhancing attachment of the device (1) to a substrate when the device (1) is in use.
5. The device (1) according to any one of claims 1 to 4, wherein said container (4) is made of plastic.
6. The device (1) according to any one of claims 1 or 5, wherein said porous and pliable medium (2) is a sponge or foam.

7. The device (1) according to any one of claims 1 to 6, wherein said nail polish removing solution is transferred from said solution compartment to said porous and pliable medium (2) by capillary transfer.
8. The device (1) according to any one of claims 1 to 7, wherein said nail polish removing solution is transferred from said solution compartment to said porous and pliable medium (2) by agitation.
9. The use of the device (1) according to any one of claims 1 to 8 to remove nail polish from toes.
10. A therapeutic cleansing device (1) comprising:

a container (4) defining an active solution compartment in a bottom part thereof, and having a side wall with an opening disposed above the solution compartment, the opening dimensioned to receive that portion of a foot to be cleansed or treated, and a porous and pliable medium (2) disposed in said container (4) at least partly above said active solution compartment and in contact with said active solution so that when the device (1) is in use, the active solution at least partly permeates the medium (2), said medium (2) having a slot or cavity (3) dimensioned to receive that portion of the foot to be cleansed or treated, the slot or cavity (3) disposed in alignment with the opening so that a portion of a user's foot can be inserted laterally through the opening into the slot or cavity (3).
11. The device according to claim 10, wherein said active solution is either a medicinal solution or a cleansing solution.
12. The use of the device according to claim 10 or 11 to treat a portion of the foot.
13. The use of the device according to claim 10 or 11 to cleanse a portion of the foot.
14. The device (1) according to any one of claims 10 to 13, wherein the container further comprises a ledge (6) disposed at bottom of said opening, the ledge (6) dimensioned

to rest the user's foot when that portion of the foot to be cleansed or treated is inserted through the opening.

15. The device (1) according to any one of claims 10 or 14, further comprising a container cover (7) dimensioned to substantially seal the container (1) against a loss of the solution when the device (1) is not in use.
16. The device (1) according to any one of claims 10 to 15, further comprising non-skid means (5) for enhancing attachment of the device (1) to a substrate when the device (1) is in use.
17. The device (1) according to any one of claims 10 to 16, wherein said container (4) is made of plastic.
18. The device (1) according to any one of claims 10 or 17, wherein said porous and pliable medium (2) is a sponge or foam.
19. The device (1) according to any one of claims 10 to 18, wherein said nail polish removing solution is transferred from said solution compartment to said porous and pliable medium (2) by capillary transfer.
20. The device (1) according to any one of claims 10 to 19, wherein said nail polish removing solution is transferred from said solution compartment to said porous and pliable medium (2) by agitation.



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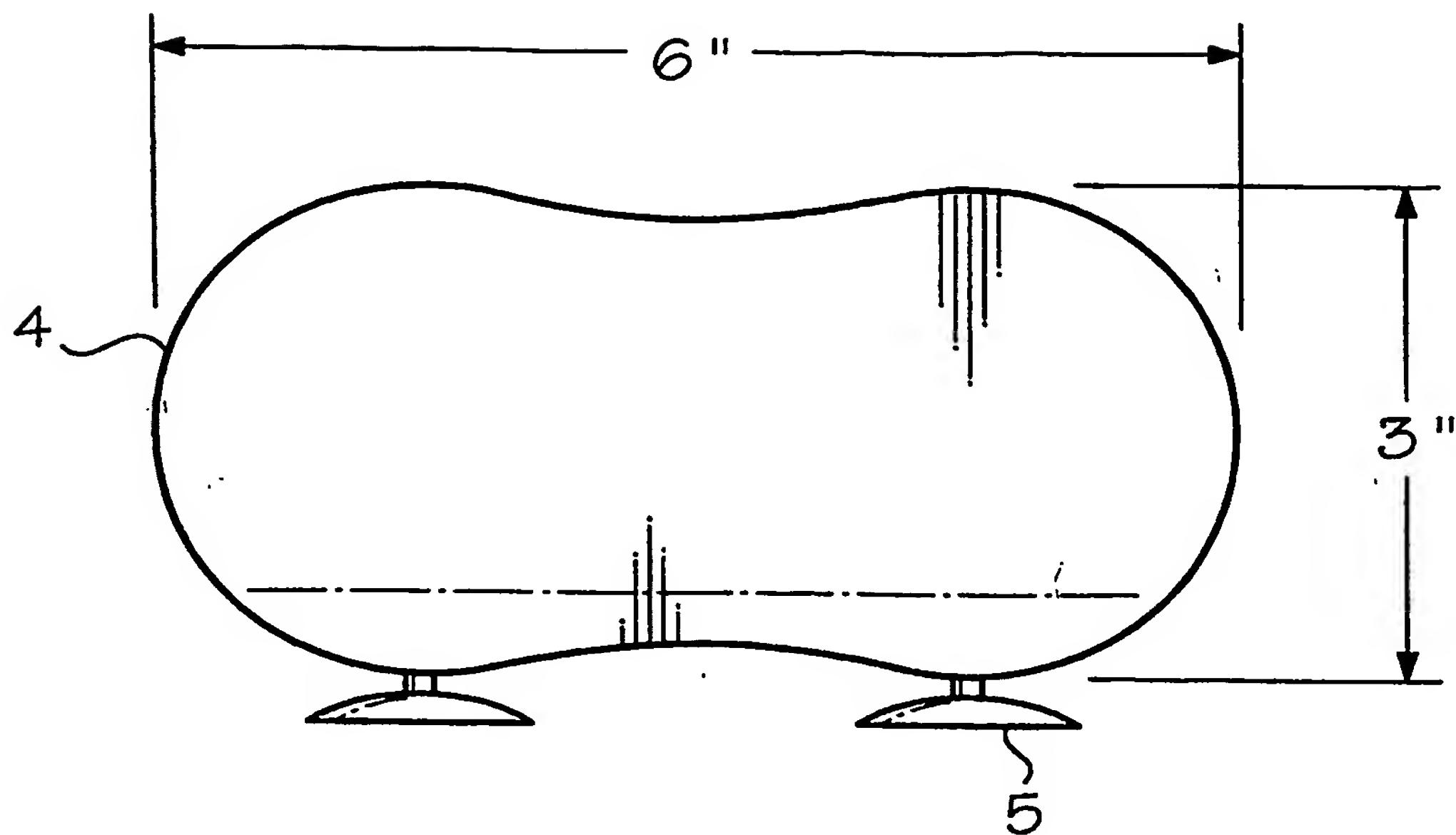


FIG. 2

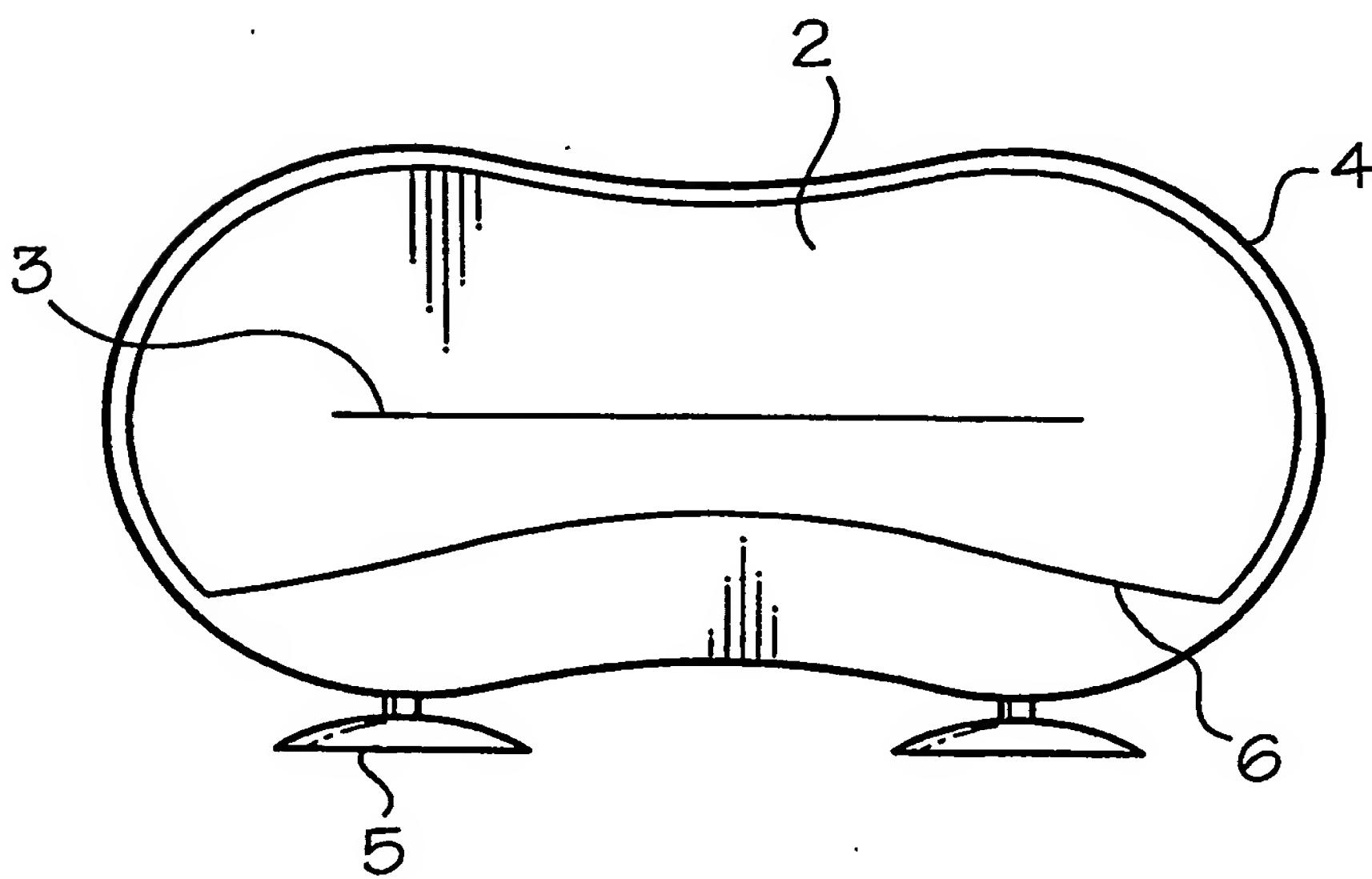


FIG. 3